



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# 18 TURNS CERMET TRIMMERS

# CT-94

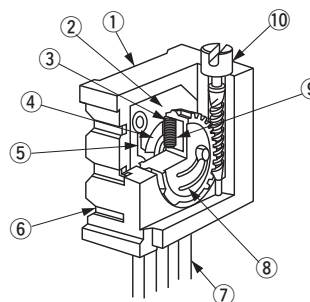
RoHS compliant



## FEATURES

- RoHS compliant
- Thin body design (4.8 mm thick)
- 18 turns, sealed, precision type

## INTERNAL STRUCTURE



	Part name	Material	Flammability
①	Housing	Polybutyleneterephthalate	UL94V-0
②	Base element	Ceramic	—
③	Wiper	Multi metal alloy	
④	Resistive element	RuO <sub>2</sub> cermet	
⑤	Electrode	Ag-Pd cermet	UL94V-0
⑥	Adhesive	Epoxy	
⑦	Terminal pin	Copper, Tin-plated	—
⑧	Rotor gear	Polyamide	UL94HB
⑨	Rubber cushion	Silicone rubber	—
⑩	Shaft	Brass, Nickel-plated	

## PART NUMBER DESIGNATION

CT - 94 E W 1 k Ω ( 1 0 2 )

Series name

Terminal pin

E : Sn (Lead-free)

Product shape

W, Y : Top adjustment

X, P, Z : Side adjustment

Resistance code



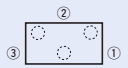


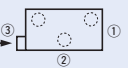

Resistance value

※ Please refer to the LIST OF PART NUMBERS when placing orders.

# CT-94

## CERMET TRIMMERS

### LIST OF PART NUMBERS

Adjustment position	Shape of terminal (Top view)	Form of packaging	Pieces in package
		Plastic bag	
Top adjustment 		CT-94EW	50 pcs./pack
		CT-94EY	
Side adjustment (↑ Adjustment direction)		CT-94EX	
		CP-94EP	
		CT-94EZ	
			

### ELECTRICAL CHARACTERISTICS

Nominal resistance range	10 Ω ~ 2 MΩ
Resistance tolerance	± 10 %
Power ratings	0.5 W (70 °C) 0 W (125 °C)
Resistance law	(B) Linear law
Maximum input voltage	DC300 V or power rating, whichever is smaller
Maximum wiper current	100 mA or power rating, whichever is smaller
Effective electrical turn	15 turns
End resistance	1 % or 2 Ω, whichever is greater
C.R.V.	1 % or 3 Ω, whichever is greater
Operating temp. range	-55 ~ 125 °C
Temp. coefficient	10 Ω, 20 Ω : ± 250 10 <sup>-6</sup> /°C maximum 50 Ω ~ 2 MΩ : ± 100 10 <sup>-6</sup> /°C maximum
Insulation resistance	1000 MΩ minimum (DC500 V)
Dielectric strength	AC900 V, 60 s
Net weight	Approx. 0.88 g (CT-94EP) Approx. 0.92 g (CT-94EW, EX, EY, EZ)

### <Nominal resistance values>

↻ 10 Ω	↻ 20 Ω		50 Ω	100 Ω	200 Ω		500 Ω	1 kΩ	2 kΩ	5 kΩ
10 kΩ	20 kΩ	↻ 25 kΩ	50 kΩ	100 kΩ	200 kΩ	↻ 250 kΩ	500 kΩ	1 MΩ	2 MΩ	

Fig.1

※ The above part numbers are all available with the respective combination of <Nominal resistance values> (Fig. 1).

※ Verify the above part numbers when placing orders.

**The products indicated by ↻ mark are manufactured upon receipt of order basis.**

### MECHANICAL CHARACTERISTICS

Mechanical turn	18 turns
Operating torque	35 mN·m {357 gf·cm} maximum
Mechanical stop	Clutch action
Rotational life	200 cycles [Δ R/R ≤ ± (2 Ω + 3 %)]
Terminal strength	10 N {1.02 kgf} minimum (Tensile strength)
Thrust to shaft	10 N {1.02 kgf} minimum
Solderability	245 ± 3 °C, 2 ~ 3 s

{ } : Reference only

### ENVIRONMENTAL CHARACTERISTICS

Test item	Test conditions	Specifications
Thermal shock	-65 ~ 125 °C (0.5 h), 5 cycles	[Δ R/R ≤ 1 %] [S.S. ≤ 1 %]
Humidity	-10 ~ 65 °C (80 ~ 98 %), 10 cycles, 240 h	[Δ R/R ≤ 2 %]
Shock	981 m/s <sup>2</sup> , 6 ms 6 directions for 3 times each	[Δ R/R ≤ 1 %] [S.S. ≤ 1 %]
Vibration	(Amplitude) 1.52 mm or (Acceleration) 196 m/s <sup>2</sup> , 10 ~ 2000 Hz, 3 directions, 12 times each	
Load life	70 °C, 0.5 W, 1000 h	[Δ R/R ≤ 3 %] [S.S. ≤ 1 %]
Low temp. operation	-55 °C, 2 h	[Δ R/R ≤ 2 %] [S.S. ≤ 2 %]
High temp. exposure	125 °C, 250 h	[Δ R/R ≤ 3 %] [S.S. ≤ 2 %]
Immersion seal	85 °C, 60 s	No leaks (No continuous bubbles)
Soldering heat	Flow 260 ± 3 °C, 5 ~ 6 s, two times maximum Manual soldering 380 ± 10 °C, 3 ~ 4 s	[Δ R/R ≤ 1 %]

Δ R/R : Change in total resistance  
S.S. : Setting stability

# CT-94

## CERMET TRIMMERS

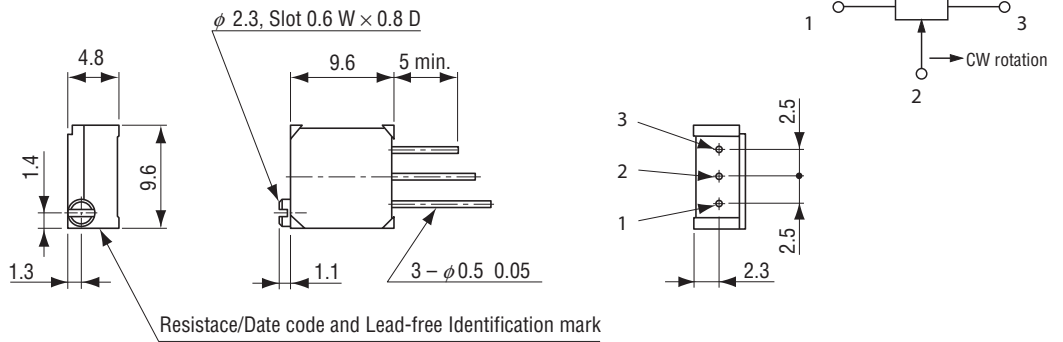
### MAXIMUM INPUT RATINGS

Nominal resistance values ( $\Omega$ )	Resistance code	Maximum input voltage (V)	Maximum wiper current (mA)
<ul style="list-style-type: none"> <li>➡ 10</li> <li>➡ 20</li> <li>50</li> <li>100</li> <li>200</li> <li>500</li> </ul>	<ul style="list-style-type: none"> <li>100</li> <li>200</li> <li>500</li> <li>101</li> <li>201</li> <li>501</li> </ul>	<ul style="list-style-type: none"> <li>1.00</li> <li>2.00</li> <li>5.00</li> <li>7.07</li> <li>10.0</li> <li>15.8</li> </ul>	<ul style="list-style-type: none"> <li>100</li> <li>100</li> <li>100</li> <li>70.7</li> <li>50.0</li> <li>31.6</li> </ul>
<ul style="list-style-type: none"> <li>1 k</li> <li>2 k</li> <li>5 k</li> <li>10 k</li> <li>20 k</li> <li>➡ 25 k</li> <li>50 k</li> </ul>	<ul style="list-style-type: none"> <li>102</li> <li>202</li> <li>502</li> <li>103</li> <li>203</li> <li>253</li> <li>503</li> </ul>	<ul style="list-style-type: none"> <li>22.4</li> <li>31.6</li> <li>50.0</li> <li>70.7</li> <li>100</li> <li>112</li> <li>158</li> </ul>	<ul style="list-style-type: none"> <li>22.4</li> <li>15.8</li> <li>10.0</li> <li>7.07</li> <li>5.00</li> <li>4.48</li> <li>3.16</li> </ul>
<ul style="list-style-type: none"> <li>➡ 100 k</li> <li>200 k</li> <li>250 k</li> <li>500 k</li> <li>1 M</li> <li>2 M</li> </ul>	<ul style="list-style-type: none"> <li>104</li> <li>204</li> <li>254</li> <li>504</li> <li>105</li> <li>205</li> </ul>	<ul style="list-style-type: none"> <li>224</li> <li>300</li> <li>300</li> <li>300</li> <li>300</li> <li>300</li> </ul>	<ul style="list-style-type: none"> <li>2.24</li> <li>1.50</li> <li>1.20</li> <li>0.60</li> <li>0.30</li> <li>0.15</li> </ul>

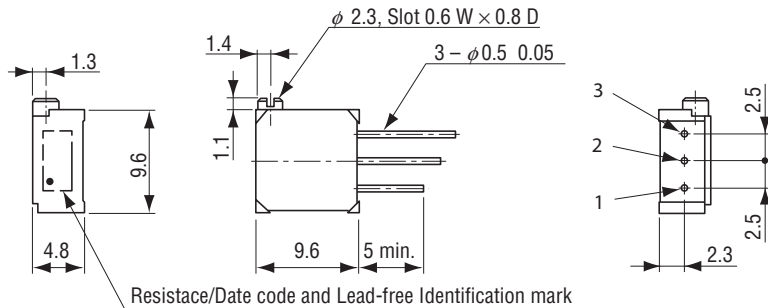
The products indicated by ➡ mark are manufactured upon receipt of order basis.

### OUTLINE DIMENSIONS

#### CT-94EW Top adjustment



#### CT-94EX Side adjustment



Unless otherwise specified, tolerance:  $\pm 0.3$  (Unit: mm)

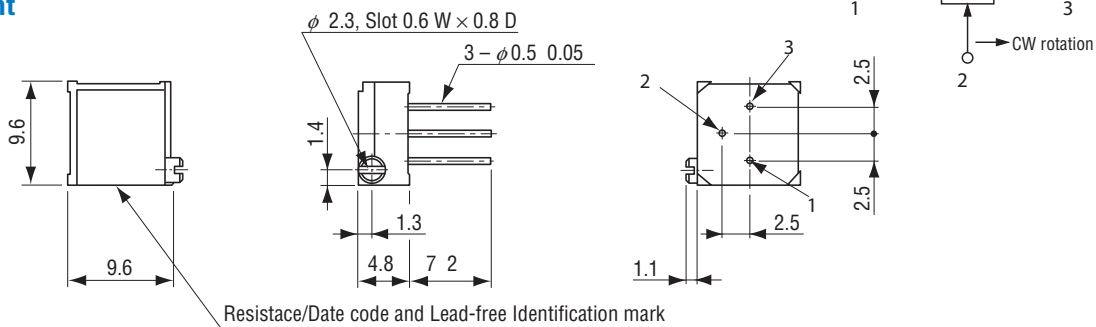


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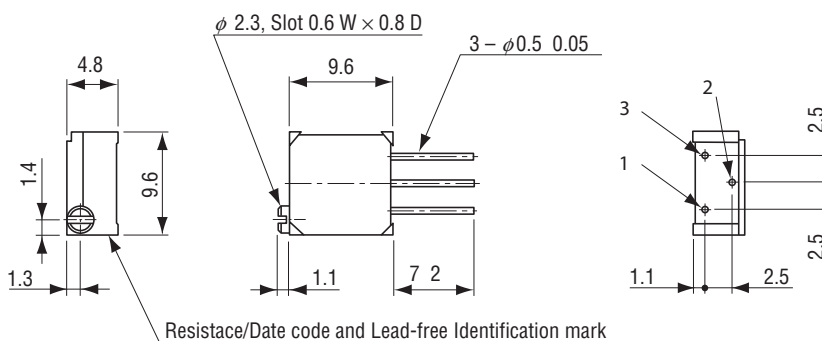
## CERMET TRIMMERS

### OUTLINE DIMENSIONS

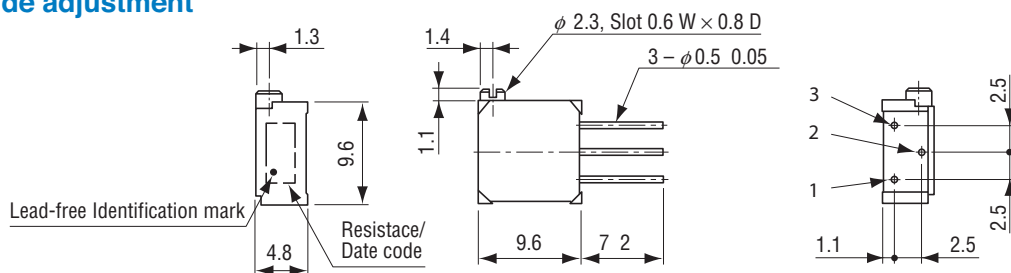
#### CT-94EP Side adjustment



#### CT-94EY Top adjustment



#### CT-94EZ Side adjustment



### PACKAGING SPECIFICATIONS

#### <Bulk pack specifications>

- Unit of bulk in a plastic bag is 50 pcs. per pack.
- Boxing of bulk in a plastic bag is performed with 100 pcs. per box.